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ABSTRACT

This study evaluated the teaching methods of 11 day care teachers and caregivers at a university-sponsored center to determine if: (1) the teachers used different strategies for same-age and mixed-age groups of children; (2) there are differences in strategies used by less- and more-experienced teachers; and (3) teachers used specific strategies to enhance the social and intellectual development of children in mixed-age groups. Through ethnographic interviews and observations, it was determined that teachers preferred mixed-age groups: they considered planning for mixed age groups to be more open-ended than planning for same-age groups. Staff who were more experienced used strategies to enhance social and intellectual development more often than less experienced staff. Some teachers tended to focus on specific skills rather than intellectual and social abilities with mixed-age groups, and teachers' life experiences had an impact on how they felt about mixed-age grouping. (An appendix contains a list of teaching strategies for maximizing the benefits of mixed-age grouping.) (MDM)

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A CASE STUDY OF TEACHER STRATEGIES USED WITH MIXED-AGE GROUPS OF CHILDREN IN ONE PRESCHOOL SETTING.

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Introduction

This paper briefly reviews a semester-long case study undertaken at the request of a child care center director. The focus of the study was on the curriculum and teaching strategies used by teachers working with mixed-age groups of children three to six years old. The process of children's experiences was investigated through the use of participant observation, field notes, interviewing, and collection of site documents.

The questions guiding the study were: (1) do teachers use different strategies for same-age and mixed-age groups--and, do they think they should or would if in another setting?, (2) are there differences in the strategies used by less and more experienced teachers--and if so, why?, and (3) are teachers using specific strategies to enhance children's social and intellectual development while in mixed-age groups? The questions are derived from suggestions for further research needed on the effectiveness of mixed-age grouping made by Katz et al. in The case for mixed-age grouping (1990).

First, a literature review on mixed-age grouping will be presented. Then, the study process will be detailed. Finally, preliminary findings, following initial data analysis, will be outlined and a brief summary given.

Overview

It has been fairly common to group children by age in early childhood settings, reflecting the practices of primary schools, as well as perceived similarities of developmental levels and hence needs of children the same age. (The cynic might add that same-age grouping also makes things easier for teachers, if not necessary better for children.) It is not uncommon to hear reference made to the "older twos" or "young threes" in child care and other early childhood programs. More recently, the notion that both younger and older children might benefit from being in mixed-age groups similar to family and community patterns has come into vogue (Roopnarine, 1987).

In The case for mixed-age grouping, Katz and her colleagues support mixed-age grouping of young children based on the available evidence but suggest four areas requiring further research. One of the areas they identify, the use of curriculum and teaching strategies which maximize social and intellectual benefits for the group [Appendix 1], was the primary focus of the present study.

The literature on mixed-age grouping for young children can be divided into four areas, two of which (because of their relevance to the study) will be briefly presented here: (1) social learning among peers and (2) cognitive processes.

Research findings indicate that the social participation of children in same-age groups differs significantly from the social participation of children in mixed-age groups (Goldman, 1981; Lougee et al., 1977; Reuter & Yunik, 1973; Roopnarine & Johnson, 1984). For example, Reuter and Yunik found that children in mixed-age groups spent more time in social interactions with peers and less time in teacher-directed activities than their age mates in same-age classrooms. Selected studies also indicate that older models are imitated more often than younger models and that older models are consistently imitated across different tasks (Peifer, 1972; Thelen & Kirkland, 1976). However, the literature on the effects of mixed-age grouping on social learning of young

children is quite limited and additional research focusing on the effects of mixed-age grouping on the interactional patterns and imitation behaviors of young children is necessary.

Regarding the effects of mixed-age grouping on cognitive processes, it has been suggested that

> "Psychologists and educators do not yet fully understand how mixed-age interaction affects cognitive development. More data are needed. Nevertheless, the concepts of cognitive conflict and the zone of proximal development provide some theoretical justification for experimenting with education in mixed-age grouping in the early years" (Katz et al., 1990, p. 27).

Piaget proposed that the cognitive conflict which occurred in same-age grouping was sufficient for cognitive growth (cited in Roopnarine, 1987). However, some researchers have argued that preoperational children are not as egocentric as Piaget claimed (Donaldson, 1978; Gelman, 1977), and research findings from studies of communicative competence (e.g., Shatz & Gelman, 1978) and moral reasoning (Turiel, 1969) indicate that young children are aware of age differences between themselves and others, and that they make accommodative shifts in behavior based on that awareness.

Vygotsky claimed that "collaborative activity among children promotes growth because children of similar ages are likely to be operating within one another's proximal zone of development, modeling in the collaborating group behaviors more advanced than those they could perform as individuals" (cited in Slavin, 1987, p. 1162). Research studies of interactional patterns of young children in mixed-age and same-age groups (Mounts & Roopnarine, 1987) and problem solving techniques (Azmitiza, 1988) support this claim.

The studies available are suggestive about the effects of mixed-age grouping on the cognitive development of young children. However, the ways in which mixed-age interaction affect cognitive development are not yet fully understood, and, as always,

further study is needed.

The Setting

The program in which the study took place, here called Elmwood, was a not-for-profit child care center located on the campus of a large Eastern University. Although the center was affiliated with the University and utilized University resources, it was run by and staffed through a community agency. At the time of the study the center had eleven full- and part-time caregiving/teaching staff including the director, assistant director, and three graduate assistants. Four work-study students and several volunteers also helped care for and educate the 38 children at Elmwood (when at full enrollment). Children were at some times in same-age groups and at others in mixed-age groups.

The Teachers

The teachers at Elmwood, all women, reflected a variety of backgrounds and current life situations. Some worked part-time, some full-time; several were working on advanced degrees in early childhood education (ECE), while others had little formal education in ECE; most were quite young, but several were in their 30's & 40's; one woman was African American, the rest were European American. I will suggest later that their respective life experiences played an important role in their views and implementation of mixed-age grouping. All names used are pseudonyms.

Mary Waller - Mary had been working at Elmwood full-time for approximately one year at the time of her interview (May 1991). Her previous experience with young children included teaching horseback riding and working part-time at a cooperative preschool. Mary, the oldest of the staff members, had less ECE experience than most of the other teacher-caregivers.

Tina Crouse - Tina had been at Elmwood for approximately eight months. She was a recent graduate of the University in ECE and had some substitute teaching experience as well as a very brief stint as a teacher in one of the other local child care centers.

Mandy Myers - Mandy had been at the center longer than most other staff; part-time (while attending the University) for about one year, and full-time for an equal amount of time. She had also worked as a YMCA camp counselor for a year and a director for another year; she worked with children three and four years old in the morning and with school-age children in the afternoons.

Marsha Jamison - Marsha had been a half-time graduate assistant at Elmwood for three years, making her the senior staff person at the time of the study. Before her time at Elmwood, she had owned and operated a group day care home for five years serving children six weeks to five years of age. She was a doctoral student in ECE at the University at the time of the study.

Elsa Kolivosky - Elsa was also a graduate assistant at the center; she had been there one and one-half years and was finishing her Master's degree in ECE at the time of the study. Before coming to the University, she had worked as a Head Start teacher at a university lab school, at a community nursery school, and at day camps in the summer.

Lura Banesto - Lura had been working part-time for about a year and a half at Elmwood; she was an undergraduate student in Elementary Education.

Senoma Negron - Senoma was a full-time employee at Elmwood. She had been there for six months following her experience with first through fourth graders at a YMCA, a short stint working with toddlers, and student teaching with a third grade class. She had a B.S. in Elementary Education.

Lydia Grandisio - Lydia was another University student who worked part-time at Elmwood. She had been there for a little over a year and had no previous experience in working with young children other than babysitting.

Joleen Siroto - Like Marsha, Joleen was a doctoral student in ECE. Her previous experience included raising her own children, babysitting, teaching grade school, and working for Children and Youth Services.

Moira Previn - We were not able to interview Moira due to time constraints. However, I know she had extensive experience with very young children in group care; at the time of the study she had been at Elmwood for several years as the Assistant Center Director and was very involved with and dedicated to ECE.

Design

I, as the primary researcher, functioned as a (part-time) participant-observer from mid-February to early May of 1991, recording fieldnotes, conducting semi- and unstructured interviews, and collecting site documents. My graduate assistant was a part-time co-observer and also conducted several of the semi-structured interviews. [Note: Given the short duration of the study and our inability to be participant-observers every day, we could be called to task for not meeting the minimum standards for length of time on site necessary to conduct a "real" ethnography; whether we stayed on site long enough to "make sense of" the situation could be questioned.]

The staff at Elmwood agreed to be observed and interviewed and they were willing to share their lesson plans and other relevant documents with us. Anonymity was promised, in so far as that is possible (see Lincoln & Guba, 1985). Fieldnotes were transferred to computer disk, enabling us to reflect on the day's observation and do the write-up before returning to the site for subsequent observations. Fieldnotes were circulated several times throughout the center for feedback from staff, but comments were limited to those made by the assistant director. At the termination of data collection, my graduate student and I reviewed all the data and the emerging themes we had discovered, searching for confirming and disconfirming evidence. These findings were also shared with staff for member checks. One staff person responded, although more to add information then to dispute or clarify themes.

Participant-observer methodology allowed me and my graduate assistant to collect data in context, a need cited regarding research on early childhood settings in general

(e.g., Zimmer, 1979) and also specifically with regard to research on the effects of mixed-age grouping (Roopnarine & Johnson, 1984). Because the study was based on a problem area identified by the center director and was oriented toward action, we were able to provide information to the program which may have helped staff to assess their practices and consider making changes leading to the most beneficial teaching strategies.

Reliability and Validity

Although I now know about Lincoln and Guba's non-traditional, qualitative analogues to validity and reliability (credibility, transferability, dependability, and confirmability) to test "trustworthiness", at the time the study was planned, I was only familiar with qualitative interpretations of the traditional, positivist conceptions of reliability and validity. Hence, these will each be addressed in turn.

The primary concern (and responsibility) of the ethnographic researcher with regard to reliability is producing an accurate description of behaviors in context, repeated over observations. Therefore, in addition to the use of verbatim transcripts of interviews and participant feedback, having two observers recording, then comparing, notes on the same events was a part of our study. Field notes and questions which arose were several times circulated among staff with feedback solicited, but as noted above, comments were limited.

Validity was addressed by repeated, prolonged observations done at different times in varying contexts (although at the same site); constructs were generated consistent with what was seen and participant feedback. Examples from fieldnotes or quotes form interviews are included to support assertions. The validity of ethnographic observation is based upon an observation period that lasts long enough to permit the ethnographer to see things happen repeatedly. That is, we've observed long enough when we learn nothing new from repeated actions. As Lincoln and Guba (1975) note however, sometimes time and money constraints dictate what is "long enough". This was our

situation.

Triangulation, the "cornerstone" of ethnography, requires the use of multiple methods or sources; hence our use of participant-observation, interviewing, and document analysis. Data sources included fieldnotes, interview transcripts, photographs, and various documents, notably lesson plans.

Results

1. In general, mixed-age grouping was viewed positively by the teachers. Teachers preferred mixed-age grouping for most of the day, although many said they would prefer their small group times to be with same-age children.

Joleen believed there were several benefits to mixed-age grouping:

> "I think the children... learn things more quickly when they're watching older kids do them. The older kids are leading them through these steps and they're [also] learning social interaction faster. I think those are the two main benefits. Plus the older kids benefit in a way that they learn to be tolerant of people who can't do as much as they do. They learn how to, they can see how it was when they were kids, or they remember when they were younger."

Senoma echoed these comments. When I asked, in response to her comment about her younger sister's learning quickly from being around older siblings, "So the younger kids learn just from being around older kids?" she answered, "Right. And it's the same the other way around. The older kids learn what the younger kids can and can't do."

Elsa said she thought the most beneficial aspect of using mixed-age grouping, "...is that, that is the way the world is. You're never going to interact just with people who are your own age. I see that as a real positive type of experience for them." She added, "... expectations are higher. You know, the older kids are going to help the younger kids."

2. There was a consensus that planning for mixed-age groups tends to be more open-

ended, while planning for same-age groups can focus more specifically on age-appropriate skills and concepts, thus perhaps being easier for teachers. For example, with reference to planning for same-age groups, Lura said,

> "In small groups [with similar age children] I think it would be easier to plan, because all your children would be... very close to the same... abilities, the same level of functioning... So it would be easier to plan like one activity that you feel that their attention spans could manage. And you could plan higher level activities that... you could help them reach."

Mandy explained how she planned for mixed-age groups this way: "I plan a range of things from an art activity that could be very complex depending on the attention span of the child; there's a start[ing] point but no finished product [required]. The product can be whatever the child wants it to be... Here we're looking at the beauty of what the child created, not 'does yours look exactly like mine?'"

To summarize from findings 1 & 2, the teachers believed that while same-age grouping is probably easier for teachers in terms of planning and implementing lessons, mixed-age grouping is better for children.

3. More experienced staff used more strategies to enhance social and intellectual development more often. Education, personality, and philosophy also seemed to play a role in terms of strategies used. Newer teachers and those with less ECE background tended to use more teacher direction; more experienced teachers used more of the strategies recommended by Katz et al. (1990) and also were better able to articulate what they did and why.

My graduate assistant and I often observed less experienced teachers missing opportunities to use strategies and more experienced teachers capitalizing on them. The following, an excerpt from my fieldnotes of 2/4/91, describes the actions of two less experienced teachers.

> One morning I stood by the lockers outside one of the rooms as a mixed-age group of children came in from the playground. As they were trying to get outside clothing off, several children kept calling, "I need help". The teacher with the children, Mary, helped all the children she could and did not suggest that either other children help or that children try to undress themselves. Once inside the room, children went to different areas. At a table set up for drawing, Monte struggles to separate computer paper. Mary: "Shall I help you with that? Seems to be stuck together." There is an older girl at the table but Mary does not suggest she might be able to help. Later, all the children sit in a circle on the rug with Mary and Mandy, another relatively new teacher. When the younger children have trouble playing "Doggie, doggie" the teacher tells them how to play; they do not ask the older children to explain nor do they note the youth or inexperience of the children having trouble.

Another morning I observed Elsa, a more experienced teacher, and her small group as they begin an art project. During this observation, Elsa sometimes used the strategies suggested by Katz & her colleagues and other times did not.

> The whole group goes to the kitchen to get smocks. When they return, Janelle has trouble putting hers on and so goes to Elsa. Elsa sends her to Matsumi, an older, very competent child, who appears happy to help. Elsa gives the group the option of working independently on a collage or working with the group. Elsa frequently fosters peer interaction. For example, when Matsumi tells Janelle not to do something (teachers noted they had to watch for "bossiness" from older kids), Elsa suggests Matsumi "ask her what she's putting in there." Later Janelle asks Elsa, "How am I going to try this?" and Elsa responds, "I don't know how are you?" Elsa seems to be trying to support independence as well as interdependence. Later still, when some of the children are in the dress-up area, Elsa helps peers focus on each other by saying to Matsumi, "I hear Janelle calling, hear her?" Matsumi responds to Janelle, "Coming, coming." [From field-notes of 1/29/91].

Our field notes also recorded that when older children were with teachers who frequently used strategies that promoted inter-age interaction, those children were more likely to interact positively with younger peers without prompting.

4. Teachers, some more than others, tended to focus on skills (e.g., helping with tying shoes) rather than intellectual and social abilities vis a vis strategies to use

with mixed-age groups. However, there was individual variation and some staff who were notable exceptions to the "rule". (One reason teachers gave for sometimes not asking older kids to help younger was they didn't want the younger children to burden the older ones.)

When I asked Mandy during her interview if there were specific strategies she used for fostering social and cognitive skills in mixed-age groups she replied, "the one I've done the most since we got the strategies is the older children helping the younger children--putting on shoes, 'would you lead Juan to do this activity?'--things like that..." This focus on skills was seen during the following transition from nap time to snack.

> Mandy says to Carlos, "Do you and Manny want to brush your teeth together? Why don't you both brush at the same time, and you can help her." Carlos agrees without much emotion; he's not excited, but not hesitant either.

The alternative, a focus on intellectual and social abilities, may be found in the following excerpt.

> Harry walks over to Moira and says, "I have the world puzzle at home, and I can do the side with the colors. But I can't do the side with the water. I can almost do all of it." Moira says, "You're doing tougher and tougher puzzles, Harry", acknowledging that Harry can do things now that he could not do in the past.

[Both excerpts from fieldnotes of 4/3/91]

5. Teachers' life experiences had a impact on how they felt about mixed-age grouping as the following excerpts from interviews indicate.

> Lydia: I know I learned alot from my older brothers and sisters, and that was a good thing. I mean, that's the way life is right?

> Joleen: I remember reading the book about mixed-age grouping, and one of the quotes was that "humans aren't born in litters so why do we think we should educate them that way". And that makes alot of sense. Because I know how my own children interacted with each other and

> helped each other alot. And they still do play together... And my younger daughter still tries to emulate her older sister. And they play together all the time. I think it's real natural... a real natural grouping...

Similarly, Lura referred to personal experiences when citing a benefit to same-age grouping.

> When I started kindergarten I had a really hard time because I didn't know anybody that was my age that was going to kindergarten at the same time. So, when I went to kindergarten... I didn't know anybody. But now if the children were in a center that took [children the] same age, ALL those children would be going to kindergarten at the same time.

Conclusion

It would seem that early childhood teachers may accept, and even embrace, the concept of mixed-age grouping while not having specific strategies in their repertoire related to its use. That is; while most of the teachers told us they believed in mixed-age grouping, and we held a brief staff workshop to review strategies teachers might use to maximize its effectiveness, our observations and interviews indicated lack of teacher knowledge of Katz et al.'s (1990) suggested strategies. This situation was especially apparent prior to a second staff workshop where my graduate assistant and I clarified what it was we were looking for, and went over the strategies on a handout given to all staff. We then saw more use of the strategies, but as noted above, the amount and depth of usage varied according to the teacher.

Of special interest to me was the teachers' intuitive support for mixed-age grouping; a number of the teachers said they didn't "know the theories" but just felt mixed-age grouping made sense. Lydia said, for instance, "Like I said, I don't know about the theories or research or anything, but I just like it [mixed-age grouping]. I think it's a good idea, and it's alot more fun for me and for the kids too. It just makes sense." This reliance on life experiences and intuition to guide work with

children is consistent with a number of researchers' contentions that women construct their own knowledge and understandings in context and with much consideration given to affect. (See, for example, Belenky et al., 1986). It will be interesting to see if, as women's ways of knowing gain credence in the field of education, mixed-age grouping is more enthusiastically embraced based on the belief that "it just makes sense".

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APPENDIX 1

TEACHING STRATEGIES FOR MAXIMIZING THE BENEFITS OF MIXED-AGE GROUPING

Enhancing social development

1. Suggest that older children assist younger ones and that younger ones request assistance from older ones in social situations.
2. Encourage older children to assume responsibility for younger ones, and encourage younger ones to rely on older ones.
3. Guard against younger children becoming burdens or nuisances for older ones.
4. Help children accept their present limitations.
5. Help children develop appreciation of their own earlier efforts and progress.
6. Discourage stereotyping by age.

Enhancing emotional development

1. Alert children to their peers' needs, feelings, and desires.
2. Encourage children to give and to accept comfort from each other at times of special stress, separation anxiety, and so forth.

Encouraging intellectual development

1. Alert children to their peers' interests.
2. Alert children to their peers' skills as appropriate.
3. Encourage children to read to others and to listen to others read.
4. Help older children think through appropriate roles for younger ones.